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**Kawka et al.**

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(54) **METHOD AND APPARATUS FOR  
TRANSFERRING A DISCRETE SUBSTRATE**

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See application file for complete search history.

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(\*) Notice: Subject to any disclaimer, the term of this  
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(57) **ABSTRACT**

An apparatus and method for transferring a discrete sub-  
strate. A transfer apparatus may include a top plate and a  
bottom plate. The top plate and the bottom plate may include  
a first inboard supply port and a first outboard supply port  
and may define a passageway. The discrete substrate may  
enter the passageway at a first velocity and exit the passage-  
way at a final velocity. The final velocity may be greater than  
the first velocity. A first inboard control valve and a first  
outboard control valve may be activated, and each valve  
may operate on a valve frequency that defines an on-period  
and an off-period for each cycle. Each cycle may be con-  
trolled by a controller. A visual detection device may track  
the discrete substrate and communicate with the controller.  
The discrete substrate may be adjusted as it advances in a  
machine direction.

**37 Claims, 13 Drawing Sheets**

